



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200  
Fax 613 632-5246

# Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name	
PO041803	MEC002-VU	1	1	Net 30	M7075T6S1.500X1.500	7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft				60	12/17/2018	60		S138087	Stock	12/14/2018	\$ 29.40 / ft	3		\$1,770.17	Metaux Castle	
		2			M7075T6S1.750X2.250	7075-T6 Sheet 1.750" X 2.250" : MATERIAL: 7075-T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft				24	1/23/2019	24		S138088	Stock	12/14/2018	\$ 34.18 / ft	3		\$823.05	Metaux Castle	
		3			M17-4-B1.500X2.250	17-4 SS Bar 1.50 X2.250 : MATERIAL: 17- 4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft				12	12/17/2018	12		S138112	Stock	12/14/2018	\$ 118.78 / ft	3		\$1,425.36	Metaux Castle	
Total:										96			96								\$4,018.59	



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO041803**

**Supplier:** MEC002-VU  
Metaux Castle  
P.O. Box 4090 Stn A  
Toronto  
ON  
M5W OE9 Canada

**PO No:** PO041803

**PO Date:** 11/21/18

**Due Date:** 12/17/18

**Purchase Order**

**Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**E-MAILED**  
NOV 23 2018

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pynt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

## **Items**

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1 AT		M7075T6S1.500X1.500		7075-T6S Sheet 1.5" Thick Plate X 1.5" Wide : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	12/17/18	60 ft	0 ft / 60.21ft	60 ft	\$29.40/ft AT 18/12/17	\$1,764.00
2 AT		M7075T6S1.750X2.250		7075-T6 Sheet 1.750" X 2.250" : MATERIAL: 7075- T6/T62 ALUMINUM SHEET AS PER QQ-A- 250/12 OR AMS-QQ-A- 250/12 OR AMS 4045 OR ASTM B209 receive ft	Firmed	-	1/23/19	24 ft	0 ft / 24.00	24 ft	\$34.18/ft AT 18/12/17	\$820.32

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Hawkesbury, ON  
K6A 1K7  
Canada

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# PURCHASE ORDER

## PO041803

Items												
Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
3		M17-4-B1.500X2.250		17-4 SS Bar 1.50 X2.250 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	-	12/17/18	12 ft /	0 ft 12 ft	12 ft	\$118.78/ft 118/12/17	\$1,425.36
4		M17-4-B0.500X2.000		17-4 SS Bar .500 x 2.00 : MATERIAL: 17-4 PH SS BAR AS PER AMS 5604/5643 GRAIN MUST BE ALONG LENGHT OF BAR MIN. YIELD TENSILE STRENGTH = 100 KSI MIN. ULTIMATE TENSILE STRENGTH = 150 KSI receive ft	Firmed	-	12/11/18	12 ft	0 ft	12 ft	\$29.25/ft	\$351.00
Grand Total:												\$4,360.68



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

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## PURCHASE ORDER PO041803

### Order Notes

#### Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

A handwritten signature in black ink, appearing to be "CL" followed by a stylized flourish.

Plex 11/21/18 2:48 PM dart.lavoie.chantal



Castle Metals®

A. M. Castle & Co.

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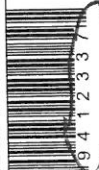
Page 1 of 1

Shipment No:3779153

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 13-DEC-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOU LIN	<b>BOL No</b> 3779153-2

Final Destination Branch - TOR

Shipment Details

<b>Order No</b> 5328027	<b>Line No</b> 1	<b>Item No</b> 750412.MO	<b>Description</b> 1.5000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 1.5 IN ( + .1250/- .0000 IN) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12		
<b>Purchase Order No</b> 41803	<b>Part Number</b>		<b>Ordered Qty</b> 5.00 PCS	<b>Invoice Qty</b> 5.00 PCS	
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
<b>Delivery No.</b> 122458542	<b>Mill/Source</b> CONSTELLUM ROLLED PRODUCTS	<b>Heat Number</b> 	<b>Mech Id</b>	<b>PCS</b> 5	<b>Width (IN)</b>
					<b>Length (IN)</b>
					<b>Shipped Qty(LBS)</b> 167.5815

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by inspection, cannot be returned for credit.	
Reviewed by Authorized Castle Metals Representative:	Date: DEC 13 2018

SUE KALOUS

Name:

Date:

DEC 13 2018

26647873

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Page 1 of 1

Shipment No:3779153

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 13-DEC-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOULIN	<b>BOL No</b> 3779153-2

**Shipment Details**

Final Destination Branch - TOR

<b>Order No</b> 5328027	<b>Line No</b> 2	<b>Item No</b> 750488.MO	<b>Description</b> 1.7500.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 2.25 IN ( + .1250/- .0000 IN) X 144.5 IN ( + .1250/- .0000 IN) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12	
<b>Purchase Order No</b> 41803		<b>Part Number</b>	<b>Ordered Qty</b> 2.00 PCS	<b>Invoice Qty</b> 2.00 PCS
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS				
<b>Delivery No.</b> 122458542	<b>Mill/Source</b> KAISER ALUMINUM	<b>Heat Number</b>  278469B2	<b>Mech Id</b>	<b>PCS</b> 2
			<b>Width (IN)</b>	<b>Length (IN)</b> 117.8218
				<b>Shipped Qty(LBS)</b>

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Reviewed by Authorized Castle Metals Representative:

Date:

Name: **GUE KALOUS****DEC 13 2018**

Date Printed: 13-DEC-2018 02:18:22 PM



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Page 1 of 1

Shipment No:3779291

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 13-DEC-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOU LIN	<b>BOL No</b> 3779291-2

Final Destination Branch - TOR

Shipment Details

<b>Order No</b> 5328022	<b>Line No</b> 1	<b>Item No</b> 9199.BO	<b>Description</b> 1.5000.2.2500.FLAT.17CR-4NI.STAINLESS.HR.ANN.PICKLE.132.0000 -156.0000 SPECIFICATIONS: AMS 5643		
<b>Purchase Order No</b> 41803	<b>Part Number</b>		<b>Ordered Qty</b> 137.70 LBS	<b>Invoice Qty</b> 12.0000 FT	
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
<b>Delivery No.</b> 122464721	<b>Mill/Source</b>	<b>Heat Number</b> 	<b>Mech Id</b>	<b>PCS</b> 1	<b>Width (IN)</b>
					<b>Length (IN)</b> 144.0000
					<b>Shipped Qty(LBS)</b> 137.7000

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.	
Reviewed by Authorized Castle Metals Representative:	Date: <b>DEC 13 2018</b>



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Page 1 of 1

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA			
<b>Date Shipped</b> 13-DEC-18		<b>F.O.B.</b> ORIGIN		<b>Freight Terms</b> Prepaid		<b>Carrier</b> MANITOU LIN		<b>BOL No</b> 3779291-2	
<b>Shipment Details</b>									
<b>Final Destination Branch - TOR</b>									
<b>Order No</b> 5328022		<b>Line No</b> 1		<b>Item No</b> 9199.BO		<b>Description</b> 1.5000.2.2500.FLAT.17CR-4NI.STAINLESS.HR.ANN.PICKLE.132.0000 -156.0000 SPECIFICATIONS: AMS 5643			
<b>Purchase Order No</b> 41803		<b>Part Number</b>		<b>Ordered Qty</b> 137.70 LBS		<b>Invoice Qty</b> 12.0000 FT			
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS									
<b>Delivery No.</b> 122464721		<b>Mill/Source</b>		<b>Heat Number</b> 		<b>Mech Id</b>		<b>PCS</b> 1	
						<b>Width (IN)</b>		<b>Length (IN)</b> 144.0000	
								<b>Shipped Qty(LBS)</b> 137.7000	

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned.

Reviewed by Authorized Castle Metals Representative: \_\_\_\_\_

DEC 13 2018

Date:

SUE KALOUS

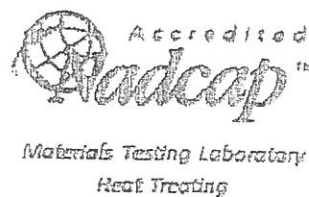


Date Printed: 13-DEC-2018 04:35:01 PM





**UNIVERSAL STAINLESS**  
Dunkirk Specialty Steel, LLC.  
830 Brigham Road | Dunkirk, NY 14048  
(716) 366-1000  
**Material Certification**



#150748032

4/4

MILL ORDER: 0087334  
PART NUMBER: SH16020  
P.O. NUMBER: 49455-5  
SERIAL NUMBER: DNK-0087334-G25698-08191

PAGE NUMBER: 1 of 1

P.O. DATE: 6/29/2018  
PRINTED: 9/30/18 10:57

S FRY STEEL COMPANY  
O T P.O. BOX 4048  
L O  
D  
SANTA FE SPRINGS, CA 90670

S FRY STEEL CO  
H T C/O C.M.I. FREIGHT TRANS  
I O 3751 CEDAR CREEK DRIVE  
P  
JOLIET, IL 60436

Material Description: STAINLESS STEEL FLAT BAR 17-4 EAF+AOD SOLUTION TREATED PICKLED AMS 2303F, ASTM A484-18, ASME SA564 (2013 Ed., 630 condition A), Rockwell MB0160-003D (except hardness & UT/MT0501-510), ASTM A564-13e1 (type 630 condition A), AMS 5643V, HOT ROLLED

Size: 1.5000 X 2.2500 X 132.0000 MIN/ 156.0000 MAX RANDOM LENGTH

Heat Number	C	0.031	MN	0.78	SI	0.36	S	0.001	P	0.020
G25698	CR	15.38	N	<0.05	V	0.08	NI	4.28	MO	0.35
	CO	0.08	CU	3.24	SN	0.012	PB		CB	0.24
	TA	0.01	AL	0.01	TI	0.01	FE		B	<0.001
	O		MS		CA		SE		ZR	
	AS		BI		N	0.025	H		CQ	

HARDNESS: 352 HBW

TENSILE:  
900 F/1 HR/AC: DIR. T/S KSI 0.2% Y/S KSI %EL %R/A HARDNESS  
LONG. 197.9 173.6 15.54 56.87 407 HBW

FERRITE:  
900 F/1 HR/AC: < 5.00% - TEST WAS PERFORMED BY UNIVERSAL STAINLESS, BRIDGEVILLE, PA

MAGNETIC PARTICLE: F/S = 0/0 - TEST WAS PERFORMED BY UNIVERSAL STAINLESS, BRIDGEVILLE, PA

MACRO ETCH: as-received - TEST WAS PERFORMED BY UNIVERSAL STAINLESS, BRIDGEVILLE, PA  
S - 1 R - 1 C - 1

THIS MATERIAL WAS SOLUTION TREATED AT A TEMPERATURE OF 1900° F/1 HR/AC

FRY STEEL CO. CERTIFIES THAT THIS IS  
A TRUE COPY OF THE ORIGINAL MILL TEST  
REPORT NOW ON FILE  
RECEIVED AND INSPECTED

OCT 01 2018

/s/ Amy Giordano

/s/ Kevin Seidel

Date: 09/30/18

Prepared by: Amy Giordano

Kevin Seidel, Technical Mgr.

Melted in Bridgeville, PA., USA or North Jackson, OH., USA and re-melted if required in one of USAP facilities in North Jackson, OH., USA, or Titusville, PA., USA, Bridgeville, PA., USA. Chemistry is tested by USAP in Bridgeville, PA., USA. Manufactured in the USA. The test results shown are certified to be a correct statement of records that were derived from testing samples of the material. Results meet applicable specifications. No welding was performed on the material supplied on this order. Material is free from mercury contamination. Material has not been cleaned prior to heat treatment. Material is of NAFTA origin. This material was produced under the Dunkirk Specialty Steel Quality Assurance Management System documented in QM, Rev 14 dated 1/25/2018, conforming to NCA-3300. Material testing was performed as applicable (latest revision) in accordance with ASTM A370, A604, E8, E10, E18, E23, E45, E112, E139, E381, E572, E1019, E1055, E1444, A561, A255, E1077, E384 & AMS 2315. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal Law, Title 18, Chapter 47. Test results are maintained in company records. If applicable: Decarb test - furnace atmosphere is Argon; Corrosion Test (ASTM A262 Practice A) - Etchant used - 10% Oxalic Acid; Microstructure @ magnification 250 - 500X. Unless otherwise stated, tensile, hardness and metallography tests are at room temperature; Percentage Elongation is measured in 4D and Speed of Testing: 0.005 in/in/min.; 0.05 in/in/min. Universal Stainless has complied with all producer requirements of AS6279 as applicable. Melted and manufactured in compliance with DFARS 252.225-7008, DFARS 252.225-7009 ALT1, Certification LAW DIN50 049/EN 10204 3.1. Material complies with EU directive 2002/95/EC (RoHS). This certification shall not be produced, except in full, without written approval of Dunkirk Specialty Steel.

# SPECIFICATION CONTROL DRAWING

**PURCHASE MATERIAL:** 17-4 PH / TYPE 630 / S17400 SS BAR  
GRAIN MUST BE ALONG LENGTH OF BAR  
MINIMUM YIELD STRENGTH PER TABLE  
MINIMUM ULTIMATE STRENGTH PER TABLE

**SPECIFICATION:** AMS 5604 OR AMS 5643 OR ASTM A693 OR ASTM 564

**PART NUMBER:** M17-4-1 HHHH-B | TTTT | WWW.WWW | WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)  
COND | THICK | WIDTH | TTTT SPECIFIES THE THICKNESS  
WWW.WWW SPECIFIES THE WIDTH

## MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

**NOTES:** MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS  
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE  
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

## EXAMPLES:

PART  
0.250" X 4.000" BAR MIN UTS = 150 KSI, MIN YTS = 100 KSI  
1.000" X 2.500" BAR H900 CONDITION  
0.500" X 3.250" BAR H1025 CONDITION  
0.750" X 2.500" BAR A CONDITION

PART NUMBER  
M17-4-B0.250X4.000  
M17-4-H900-B1.000X2.500  
M17-4-H1025-B0.500X3.250  
M17-4-CONDA-B0.750X2.500

RELEASED  
2017-10-31  
EAM17-728

B	ADD MATERIAL CONDITION AND REFORMAT DRAWING (CIR17-107)	NO	17.09.14
A	NEW ISSUE	DS	02.04.18
REV.	DESCRIPTION	BY	DATE
DESIGN	NO		
DRAWN	NO		
CHECKED	CP		
MFG. APPR.	DD		
APPROVED	WM		
DE APPR.	CP		
DATE	17.09.14		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M17-4-B			
TITLE 17-4 SS BAR			
SHEET 1 OF 1			
SCALE NTS			
DATE 17.09.14			
APPROVED			



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-B1.50x2.250  
 DATE: 18/12/17

PO / BATCH NO.: P0041803/S138112

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 12.5t  
 QUANTITY INSPECTED: 12.5t  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.500"  
 THICKNESS RECEIVED: 1.500"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	N	
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>61</u> DATE: <u>18/12/17</u>	SIGNED OFF BY: _____ DATE: _____	


Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**Castle Metals®**

A. M. Castle &amp; Co.

PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Page 1 of 1

<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA			
<b>Date Shipped</b> 13-DEC-18		<b>F.O.B.</b> ORIGIN		<b>Freight Terms</b> Prepaid		<b>Carrier</b> MANITOULIN		<b>BOL No</b> 3779153-2	
<b>Shipment Details</b>									
<b>Final Destination Branch - TOR</b>									
<b>Order No</b> 5328027	<b>Line No</b> 2	<b>Item No</b> 750488.MO		<b>Description</b> 1.7500.PL.7075.T651.ALUMINUM.US1.48.5000.144.5000 CUT 2SIDED TO 2.25 IN ( + .1250/- .0000 IN) X 144.5 IN ( + .1250/- .0000 IN) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12					
<b>Purchase Order No</b> 41803		<b>Part Number</b>		<b>Ordered Qty</b> 2.00 PCS		<b>Invoice Qty</b> 2.00 PCS			
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS									
<b>Delivery No.</b> 122458542	<b>Mill/Source</b> KAISER ALUMINUM		<b>Heat Number</b>  278469B2		<b>Mech Id</b>	<b>PCS</b> 2	<b>Width (IN)</b>	<b>Length (IN)</b>	<b>Shipped Qty(LBS)</b> 117.8218

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned.

Reviewed by Authorized Castle Metals Representative:

**GUE KALOUS**

Date: \_\_\_\_\_

DEC 13 2018

Date Printed: 13-DEC-2018 02:18:22 PM

## SHIP TO:

A M CASTLE & CO  
14001 ORANGE AVE  
P.O. BOX 1402  
PARAMOUNT, CA 90723

# KAISER ALUMINUM

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

## SOLD TO:

AM CASTLE & CO- SOLD TO  
1420 KENSINGTON RD  
SUITE 220  
OAK BROOK, IL 60523

## CERTIFIED TEST REPORT

Serial Number

4536956

CUSTOMER PO NUMBER: 474000-1	WORK PACKAGE:	CUSTOMER PART NUMBER: 750488	SHIP RUN/LOAD: 104450/25	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1265308-1	SHIP DATE: 12-NOV-2018	ALLOY: 7075	CLAD: BARE	TEMPER: T651
WEIGHT SHIPPED: 6298 LB (2856.75 KG)	QUANTITY: 5 PCS EST.	TRUCK B/L #: 2077246	GAUGE: 1.7500 IN (44.4500 MM)	DIAMETER/WIDTH: 48.500 IN (1231.9 MM)
				LENGTH: 144.500 IN (3670.3 MM)

MHU 2257249: LOT 278469B2: 2 pieces;

MHU 2277317: LOT 716826B3: 3 pieces;

## Certified Specifications

AMS 4045/RevL  
ASTM B 209/Rev14  
BSS 7055/RevB  
DPS 4.713/RevAK  
PS 21211/RevP

AMS-QQ-A-250/12 RevA  
ASTM B 594/Rev13  
CMMP 025/RevV  
GAMPS 9101/RevB/AmdSCN1

AMS-STD-2154/RevC  
BAC 5439/RevJ  
CSTI 006/RevE  
GSS16100/RevG/Amd1

Test Code: 1512

Lot: 278469B2 Cast 690

Drop 50

## Test Results

Ingot 2

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	83.8 : 84.0 (578 : 579)	74.9 : 75.4 (516 : 520)	13.4 : 13.5

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.07	0.17	1.5	0.03	2.5	0.20	5.9	0.02	0.01	0.01	TOT 0.04
Lot: 716826B3	Cast 713	Drop 11	Ingot 4	Parent Lot: 280336B9	Melted in USA						

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	81.5 : 82.1 (562 : 566)	72.5 : 72.6 (500 : 501)	12.0 : 13.1

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.19	1.4	0.04	2.4	0.20	5.6	0.03	0.01	0.01	TOT 0.03





## CERTIFIED TEST REPORT

Trentwood Works

PO Box 15108, Spokane Valley WA 99215-5108

15000 E Euclid, Spokane Valley WA 99216

Phone: (800) 367-2586

Serial Number

4536956

### ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

### ORDER COMMENTS

AMC CA-15403A R 9

### TEST NOTES

Metal represented by this test report was 100% Type 1 (immersion) ultrasonically tested from one side with 3mm dead zones top and bottom and meets the Class A and Class B requirements of all specifications referenced on this test report. No surface marking of sonic indications is performed.

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order:

- \* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein.
- \* All test equipment and measuring devices are calibrated and certified in accordance with applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture.
- \* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
- \* has been thermally processed in compliance with AMS 2772, where applicable.
- \* is mercury free, within the limits of detection of ASTM E1215 (< 1ppm).
- \* is in compliance with RoHS 2, European Union Directive 2011/65/EU.
- \* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates.
- \* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
- \* is free of weld repair.
- \* meets the reporting requirements of EN10204, Type 3.1.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or omissions on the certificate may be punished as a felony under federal law.

Michael Peske, PT Lab Process Engineer



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE

SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

PART NUMBER: M7075T6S | TTT | X | W.WWW |  
| THK | | WIDTH |

WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

PREFERRED SIZE: TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

APPROVED

B	ADD. REF TO "PLATE", "T651" TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CARB-149)	CP	17 05 05
A	NEW ISSUE	RF	10 11 08
REV	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	CP		
CHECKED	ML		
MFG. APPR.	LL		
APPROVED	WM		
DE APPR.	DS		
DATE	17 05 05		
DART AEROSPACE LTD HAYKESBURY, ONTARIO, CANADA			
DRAWING NO. M7075T6S			
REV. B SHEET 1 OF 1			
TITLE 7075-T6 SHEET/PLATE SPEC			
SCALE NTS			
COPYRIGHT © 2011 BY DART AEROSPACE LTD			



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075 T6 51.750 x 2.250

PO / BATCH NO.: P0041803 / S138028

DATE: 18/12/17

MATERIAL CERT REC'D: Yes

THICKNESS ORDERED: 1.750"

QUANTITY RECEIVED: 24.08 Lt

THICKNESS RECEIVED: 1.750"

QUANTITY INSPECTED: 24.08 Lt

SHEET SIZE ORDERED: —

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y N	AMS QQ-A-250/12
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	MT: 27846962
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS 61</u>	SIGNED OFF BY: _____		
DATE: <u>18/12/17</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/  
CERTIFICATE OF CONFORMANCE

Page 1 of 1


<b>Ship From:</b> A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		<b>Sold To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	<b>Ship To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN	<b>Deliver To:</b> DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
<b>Date Shipped</b> 13-DEC-18	<b>F.O.B.</b> ORIGIN	<b>Freight Terms</b> Prepaid	<b>Carrier</b> MANITOU LIN	<b>BOL No</b> 3779153-2

Shipment No:3779153

Shipment Details

Final Destination Branch - TOR

Order No	Line No	Item No	Description
5328027	1	750412.MO	1.5000.PL.7075.T651.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 1.5 IN ( + .1250/- .0000 IN) X 144.5 IN ( ) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12
<b>Purchase Order No</b> 41803	<b>Part Number</b>	<b>Ordered Qty</b> 5.00 PCS	<b>Invoice Qty</b> 5.00 PCS
<b>Details</b> ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS			

Delivery No.	Mill/Source	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
122458542	CONSTELLUM ROLLED PRODUCTS	 9 4 1 2 3 3 7		5			167.5815

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by third party, cannot be returned. Reviewed by Authorized Castle Metals Representative:

SUE KALOUS

Date:

DEC 13 2018

Date Printed: 13-DEC-2018 02:18:22 PM

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A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
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A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110633810		4075		INCLUSION		Serial: 20180306-0110633810		Pg 1of3	
CUSTOMER PURCHASE ORDER NO. & ITEM 453545						Constellium ORDER NO. 232527			<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA   Dave Dunbarger - Laboratory Manager		
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.50000 in 38.10 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm						
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS QQ-A-250/12A											
PART NUMBER 750412			B/L NUMBER 95899		DATE SHIPPED 03/06/2018						
WT. SHIPPED 8530.000 LB		NO. OF PIECES 000008		GOVT. CONTRACT NO.							

**ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS:**

ASTM B594 REV 13 2013 100% SONIC W/ 0.125" DEADZONE Class A  
 AMS 4045K  
 AMS-STD-2154A 2012 TYPE1 CLASS A 100% SONIC MINUS DEADZONE  
 ASTM B209-14  
 BSS-7055B 2013 CLASS A 100% SONIC TESTED MINUS DEADZONE  
 CST1006 REV E 2011 CLASS A 100% SONIC MINUS DEADZONE  
 DPS 4.713 REV AK 2012 CLASS A 100% SONIC MINUS DEADZONE  
 GAMPS 9101 REV B 2006 CLASS A 100% SONIC MINUS DEADZONE  
 PS 21211P 2010 CLASS A 100% SONIC MINUS DEADZONE

**Load Details**

Package	Net Lbs	Kg	Lot	Piece	Serial	Parent Lot
1001723363	1,068.000	484.436	9412337	01		
1001723363	1,068.000	484.436	9412337	02		
1001723363	1,067.000	483.983	9412337	03		
1001723363	1,067.000	483.983	9412337	04		
1001723694	1,065.000	483.075	9412336	01		
1001723694	1,065.000	483.075	9412336	02		
1001723694	1,065.000	483.075	9412336	03		
1001723694	1,065.000	483.075	9412336	04		

**Lot: 9412337** (See test results below)

**Tensile - Room Temperature (US)**

		Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
Direction	Tests	Min	Max	Min	Max	Min	Max	
LT	02	80.0	80.9	69.2	71.1	9.0	12.5	







Constellium Rolled Products  
Ravenswood, LLC

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A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
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A M CASTLE  
1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE		110633810		4075		INCLUSION		Serial: 20180306-0110633810		Pg 2 of 3	
CUSTOMER PURCHASE ORDER NO. & ITEM 453545						Constellium ORDER NO. 232527					
ALLOY 7075	CLAD	TEMPER T651	GAUGE 1.50000 in 38.10 mm	WIDTH 48.50000 in 1,232 mm	LENGTH 144.50000 in 3,670 mm		<b>CERTIFICATION</b> "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA   Davor Dunbarger - Laboratory Manager				
ITEM ORDERED SPEC PLATE, SAWED MILL FINISH											
CUSTOMER SPECIFICATION AMS QQ-A-250/12A											
PART NUMBER 750412		B/L NUMBER 95899		DATE SHIPPED 03/06/2018							
WT. SHIPPED 8530.000 LB		NO. OF PIECES 000008		GOVT. CONTRACT NO.							

Tensile - Room Temperature (SI)

Direction	Tests	Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	552	558	477	490	9.0	12.5	

Chemistry (Actual)

	SI	FE	CU	MN	MG	CR	ZN	TI	ZR
Core	0.06	0.13	1.50	0.05	2.61	0.20	5.64	0.04	0.00

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

Lot: 9412336 (See test results below)

Tensile - Room Temperature (US)

Direction	Tests	Ultimate (KSI)		Yield (KSI)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	80.3	81.1	70.4	70.7	12.5	13.0	



Constellium Rolled Products  
Ravenswood, LLC

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A M CASTLE & CO.  
14001 ORANGE AVE.  
PARAMOUNT CA  
90723  
US

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A M CASTLE

1420 KENSINGTON ROAD, SUITE 220  
OAK BROOK IL  
60523  
US

A M CASTLE 110633810 4075 INCLUSION Serial:20180306-0110633810 Pg 3of3

CUSTOMER PURCHASE ORDER NO. & ITEM  
453545

Constellium ORDER NO.  
232527

#### CERTIFICATION

"Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination."  
Constellium Rolled Products Ravenswood, LLC  
859 Century Road  
P.O. BOX 68  
RAVENSWOOD, WV 26164 USA

ALLOY  
7075

CLAD

TEMPER  
T651

GAUGE  
1.50000 in  
38.10 mm

WIDTH  
48.50000 in  
1,232 mm

LENGTH  
144.50000 in  
3,670 mm

ITEM ORDERED  
SPEC PLATE, SAWED  
MILL FINISH

CUSTOMER SPECIFICATION  
AMS QQ-A-250/12A

PART NUMBER  
750412

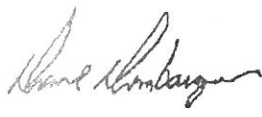
B/L NUMBER  
95899

DATE SHIPPED  
03/06/2018

WT. SHIPPED  
8530.000 LB

NO. OF PIECES  
000008

GOVT. CONTRACT NO.

  
Dave Dunbarger - Laboratory Manager

#### Tensile - Room Temperature (SI)

Direction	Tests	Ultimate (N/MM2)		Yield (N/MM2)		Elongation (%)		Report
		Min	Max	Min	Max	Min	Max	
LT	02	554	559	485	487	12.5	13.0	

#### Chemistry (Actual)

	SI	FE	CU	MN	MG	CR	ZN	TI	ZR
Core	0.06	0.13	1.50	0.05	2.61	0.20	5.64	0.04	0.00

OTHERS-EACH: .05 MAX. OTHERS TOTAL: .15 MAX. AL REMAINDER

All material contained in this lot was cast and manufactured in the USA

QUALITY TEXTS:  
AMC CA-15403A R 7

THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CHEMISTRY BY OES: ARKSPARK

CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT

WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399

WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557

DUNS Number: 090570149; CAGE Code: 1YWVL9

Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.

"END OF CERTIFICATION"

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 7075-T6/T62/T651 ALUMINUM SHEET OR PLATE  
SPECIFICATION: QQ-A-250/12 OR AMS-QQ-A-250/12  
OR AMS 4045  
OR ASTM B209

OR

PURCHASE MATERIAL: 7075-T6/T62/T651 ALCLAD ALUMINUM SHEET OR PLATE  
SPECIFICATION: QQ-A-250/13 OR AMS-QQ-A-250/13  
OR AMS 4048 / 4049  
OR ASTM B209

PART NUMBER: M7075T6S | TTT | X | W | WWW |  
| THK | | WIDTH |

WHERE "TTT" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)  
EG. 0.063" THICK SHEET = M7075T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M7075T6S.500X3.500

PREFERRED SIZE: TTT BY 4FT BY 10FT FOR SHEET

RELEASED

2017 JUN 19  
ECN 17-574

B	ADD: REF TO "PLATE", T651 TEMPER, AMS 4048, OPTIONAL WIDTH DIM (CARB-149)	
A	NEW ISSUE	
REV.	DESCRIPTION	
DESIGN	RF	
DRAWN	CP	
CHECKED	ML	
MFG. APPR.	LL	
APPROVED	WM	
DE APPR.	D9	
DATE	17 05 05	
DART AEROSPACE HAYNESBURY, ONTARIO DRAWING NO. M7075T6S TITLE 7075-T6 SHEET/PLATE COPYRIGHT © 2017 BY DART AEROSPACE		

APPROVED

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7075 T651.500x1.500  
 DATE: 18/12/17

PO / BATCH NO.: P004/803/S138087

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 60.21ft  
 QUANTITY INSPECTED: 60.21ft  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.500"  
 THICKNESS RECEIVED: 1.500"  
 SHEET SIZE ORDERED: —  
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	<u>AMS QA-A-250/12</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	<u>LT: 94/2337</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 61</u> DATE: <u>18/12/17</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in